

WHAT IS CLAIMED IS:

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1. A latch system adapted for use with a child vehicle seat comprising:  
a securing belt;  
latches disposed at each end of the securing belt, the latches being adapted for connection to anchor points rigidly connected to a portion of the vehicle; and  
a connection member having a loop portion through which the securing belt is slidably disposed and a connection portion adapted for permanent connection to the child vehicle seat.
  2. A latch system as set forth in claim 1, wherein the loop portion has an inside dimension smaller than a circumference of a largest portion of the latches.
  3. A latch system as set forth in claim 1, wherein the connection member comprises:  
a piece of webbing having a loop formed at a first end to define the loop portion and a connection hole at a second end to define the connection portion, the loop being sized to prevent the passage of a latch therethrough, and  
a fastener disposed through the connection hole and adapted to engage permanently in an opening formed in the child vehicle seat.
  4. A latch system as set forth in claim 3, wherein the piece of webbing is:  
manipulable to a first state wherein the securing belt is locatable along a first securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing opposite a forward direction of vehicle travel; and  
manipulable to a second state wherein the securing belt is locatable along a second securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing in the forward direction of vehicle travel.

5. A latch system as set forth in claim 4, wherein the first securing belt path includes a first pair of openings formed in the child vehicle seat.

6. A latch system as set forth in claim 4, wherein the second securing belt path includes a second pair of openings formed in the child vehicle seat.

7. A latch system as set forth in claim 4, wherein, in the first state, the piece of webbing is folded over on itself and is directed toward a top of the child vehicle seat.

8. A latch system as set forth in claim 4, wherein, in the second state, the piece of webbing is unfolded and is directed toward a front of the child vehicle seat.

9. A latch system as set forth in claim 4, wherein, in the first state, the piece of webbing is rotated about the fastener so that it extends in a first direction toward a top of the child vehicle seat.

10. A latch system as set forth in claim 4, wherein, in the second state, the piece of webbing is rotated about the fastener so that it extends in a second direction toward a front of the child vehicle seat.

11. A latch system as set forth in claim 3, wherein the piece of webbing has a length sufficient for it to:

a) extend away from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat in one of a rearward facing position and a forward facing position relative to a forward direction of travel of the vehicle, and

b) fold over the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child vehicle seat in the other of the rearward facing position and the forward facing position relative to the forward direction of travel of the vehicle.

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12. A latch system as set forth in claim 3, wherein the piece of webbing has a length sufficient for it to:

a) extend from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat in a position wherein it faces rearward with respect to a forward direction of travel of the vehicle, and

b) rotate about the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child vehicle seat in a position wherein it faces forwardly with respect to the forward direction of travel of the vehicle.

13. A latch system as set forth in claim 1, wherein the connection member comprises:

a lanyard having a loop at one end; and

a fastening member permanently connected at the other end, the fastening member being adapted for permanent connection to the child vehicle seat.

14. A latch system as set forth in claim 1, further comprising a length adjusting mechanism provided on the belt.

15. A latch system as set forth in claim 1, wherein the connection member is molded into the child vehicle seat.

16. A latch system as set forth in claim 15, wherein the connection member comprises a bridge shaped portion which defines the loop portion.

17. A latch system as set forth in claim 1, wherein the connection member includes a first end unitarily formed with the child vehicle seat and a second end formed with a snap connection feature to permanently engage in an opening formed in the child vehicle seat.

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18. A latch system as set forth in claim 1, wherein the connection member comprises a loop of webbing attached to a piece of material, the piece of material having a hole adapted to receive a fastener.

19. A latch system as set forth in claim 1, wherein the connection member comprises first and second substantially flat members wherein the first member is overlaid on the second member and permanently connected thereto, the first and second flat members being configured to provide a pair of slots through which the securing belt can be slidably threaded, at least one of the slots being sized to prevent the passage of a latch member therethrough.

20. A method of latching a child vehicle seat in a predetermined operative position in a vehicle, comprising the steps of:

hooking a first latch member, provided at a first end of a securing belt, to a first anchor point rigidly connected with a first portion of the vehicle;

sliding the securing belt through a loop formed in a connection member which is permanently connected to the child vehicle seat; and

hooking a second latch member, provided at a second end of the securing belt, to a second anchor point rigidly connected with a second portion of the vehicle.

21. A method as set forth in claim 20, further comprising the step of adjusting the length of the securing belt using a length adjusting mechanism provided on the securing belt.

22. A method as set forth in claim 21, wherein the step of adjusting the length of the securing belt is carried out after the steps of hooking the first latch member and hooking the second latch member.

23. A method as set forth in claim 21, wherein the step of sliding is carried out before the securing of the second latch to the second anchor point, and wherein the step of adjusting the length of the securing belt is carried out after the securing of the second latch to the second anchor point.

24. A method as set forth in claim 20, wherein the step of sliding is carried out before the step of connecting the first latch to the first anchor point.
25. A method as set forth in claim 20, further comprising the steps of:  
setting the child vehicle seat in a rearward facing orientation with respect to a forward direction of travel of the vehicle; and  
manipulating the connection member to a first state wherein the securing belt is locatable along a first securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing opposite the forward direction of vehicle travel.
26. A method as set forth in claim 20, further comprising the steps of:  
setting the child vehicle seat in a forward facing orientation with respect to a forward direction of travel of the vehicle; and  
manipulating the connection member to a second state wherein the securing belt is locatable along a second securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing in the forward direction of vehicle travel.
27. A child vehicle seat adapted for installation in vehicle having anchor points disposed at predetermined portions of the vehicle, comprising:  
a seat body;  
a securing belt with latches at either end; and  
a connection member having a loop portion through which the belt is slidably disposed and a connection portion that is permanently connected to a portion of the seat body.
28. A latch system as set forth in claim 27, wherein the loop portion has an inside dimension smaller than a circumference of a largest portion of the latches.

29. A child vehicle seat as set forth in claim 27, wherein the seat body has a plurality of openings formed therein which are adapted to:

establish a first belt path along which the securing belt can pass to secure the child vehicle seat in manner which allows the child vehicle seat to be secured in the vehicle so that it faces rearward with respect to a forward direction of travel of the vehicle; and

establish a second belt path along which the securing belt can pass to secure the child vehicle seat in manner which allows the child vehicle seat to be secured in the vehicle so that it faces forwardly with respect to the forward direction of travel of the vehicle.

30. A child vehicle seat as set forth in claim 27, wherein the connection member comprises a belt loop-like structure molded into the child vehicle seat to provide the loop portion through which the securing belt can be disposed.

31. A child vehicle seat as set forth in claim 27, wherein the connection member comprises:

a piece of webbing having a loop formed at a first end to define the loop portion and a connection hole at a second end to define the connection portion, the loop being sized to prevent the passage of a latch therethrough, and

a fastener disposed through the connection hole and adapted to engage permanently in an opening formed in the seat body.

32. A child vehicle seat as set forth in claim 31, wherein the piece of webbing is:

manipulable to a first state wherein the securing belt is locatable along a first securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing opposite a forward direction of vehicle travel; and

manipulable to a second state wherein the securing belt is locatable along a second securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing in the forward direction of vehicle travel.

33. A child vehicle seat as set forth in claim 29, wherein the first securing belt path includes a first pair of openings formed in the seat body.

34. A child vehicle seat as set forth in claim 29, wherein the second securing belt path includes a first pair of openings formed in the seat body.

35. A child vehicle seat as set forth in claim 32, wherein, in the first state, the piece of webbing is folded over on itself and directed toward a first of a top and a front of the child vehicle seat.

36. A child vehicle seat as set forth in claim 32, wherein, in the second state, the piece of webbing is unfolded and is directed toward a second of a top and a front of the child vehicle seat.

37. A child vehicle seat as set forth in claim 32, wherein the first state is state wherein the piece of webbing is rotated about the fastener so that it extends in a first direction toward a top of the child vehicle seat.

38. A child vehicle seat as set forth in claim 32, wherein the first state is state wherein the piece of webbing is rotated about the fastener so that it extends in a second direction toward a front of the child vehicle seat.

39. A child vehicle seat as set forth in claim 31, wherein the piece of webbing has a length sufficient for it to:

a) extend away from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat in one of a rearward facing position and a forwardly facing position relative to a forward direction of travel of the vehicle, and

b) fold over the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child

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vehicle seat in the other of the rearward facing position and the forward facing position relative to the forward direction of travel of the vehicle.

40. A child vehicle seat as set forth in claim 31, wherein the piece of webbing has a length sufficient for it to:

a) extend from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat in a rearward facing position relative to a forward direction of travel of the vehicle, and

b) rotate about the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child vehicle seat in a forward facing position relative to the forward direction of travel of the vehicle.

41. A child vehicle seat as set forth in claim 27 wherein the connection member comprises:

✓ a lanyard which has a loop at a first end; and

a fastening member permanently connected at a second end, the fastening member being adapted for permanent connection to the seat body.

42. A child vehicle seat as set forth in claim 27, further comprising a length adjusting mechanism provided on the securing belt.

✓ 43. A child vehicle seat as set forth in claim 27, wherein the connection member is molded into the child vehicle seat. 13

44. A child vehicle seat as set forth in claim 43, wherein the connection member comprises a bridge shaped portion which defines the loop portion. 11

✓ 45. A child vehicle seat as set forth in claim 27, wherein the connection member includes a first end is unitarily formed with the seat body and a second end formed with a snap connection feature to permanently engage in an opening formed in the child vehicle seat. 14



46. A child vehicle seat as set forth in claim 27, wherein the connection member comprises a loop of webbing attached to a piece of material, the piece of material having a hole adapted to receive a fastener.

47. A child vehicle seat as set forth in claim in claim 27, wherein the connection member comprises first and second substantially flat members wherein the first member is overlaid on the second member and permanently connected thereto, the first and second flat members being configured to provide a pair of slots through which the securing belt can be slidably threaded, at least one of the slots being sized to prevent the passage of a latch member therethrough.

48. A connection member adapted to slidably secure a securing belt of a latch system to a child vehicle seat, comprising:

a loop portion adapted to slidably receive the securing belt having latches disposed at each end; and

a connection portion adapted for permanent connection to the child vehicle seat.

49. A connection member as set forth in claim 48, wherein the loop portion has an inside dimension smaller than a circumference of a largest portion of the latches.

50. A connection member as set forth in claim 48, further comprising:

a piece of webbing having a loop formed at a first end to define the loop portion and a connection hole at a second end to define the connection portion, the loop being sized to prevent the passage of a latch therethrough, and

a fastener disposed through the connection hole and adapted to engage permanently in an opening formed in the child vehicle seat.

51. A connection member as set forth in claim 50, wherein the piece of webbing is: manipulable to a first state wherein the securing belt is locatable along a first securing belt path adapted for connecting the child vehicle seat to the first and second

anchor points with the child vehicle seat facing opposite a forward direction of vehicle travel; and

manipulable to a second state wherein the securing belt is locatable along a second securing belt path adapted for connecting the child vehicle seat to the first and second anchor points with the child vehicle seat facing in the forward direction of vehicle travel.

52. A connection member as set forth in claim 51, wherein the first securing belt path includes a first pair of openings formed in the child vehicle seat

53. A connection member as set forth in claim 51, wherein the second securing path includes a second pair of openings formed in the child vehicle seat.

54. A connection member as set forth in claim 51, wherein, in the first state, the piece of webbing is folded over on itself.

55. A connection member as set forth in claim 51, wherein, in the second state, the piece of webbing is unfolded and is essentially flat.

56. A connection member as set forth in claim 51, wherein, in the first state, the piece of webbing is rotated about the fastener so that it extends in a first direction toward a top of the child vehicle seat.

57. A connection member as set forth in claim 51, wherein, in the second state, the piece of webbing is rotated about the fastener so that it extends in a second direction toward a front of the child vehicle seat.

58. A connection member as set forth in claim 50, wherein the piece of webbing has a length sufficient for it to:

a) extend away from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat

in one of a rearward facing position and a forward facing position relative to a forward direction of travel of the vehicle, and

b) fold over the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child vehicle seat in the other of the rearward facing position and the forward facing position relative to the forward direction of travel of the vehicle.

59. A connection member as set forth in claim 50, wherein the piece of webbing has a length sufficient for it to:

a) extend from the fastener to a site on the child vehicle seat wherein the securing belt is disposable along a first belt path used to secure the child vehicle seat in a position wherein it faces rearward with respect to a forward direction of travel of the vehicle, and

b) rotate about the fastener and extend to a site on the child vehicle seat wherein the securing belt is disposable along a second belt path used to secure the child vehicle seat in a position wherein it faces forwardly with respect to the forward direction of travel of the vehicle.

60. A connection member as set forth in claim 48, further comprising:

a lanyard having a loop at one end; and

a fastening member permanently connected at the other end, the fastening member being adapted for permanent connection to the child vehicle seat.

61. A connection member as set forth in claim 48, wherein the connection member is molded into the child vehicle seat.

62. A connection member as set forth in claim 61, wherein the connection member comprises a bridge shaped portion which defines the loop portion.

63. A connection member as set forth in claim 48, wherein the connection member includes a first end unitarily formed with the child vehicle seat and a second end

formed with a snap connection feature to permanently engage in an opening formed in the child vehicle seat.

64. A connection member as set forth in claim 48, further comprising a loop of webbing attached to a piece of material, the piece of material having a hole adapted to receive a fastener.

65. A connection member as set forth in claim in claim 48, further comprising first and second substantially flat members, wherein the first member is overlaid on the second member and permanently connected thereto, the first and second flat members being configured to provide a pair of slots through which the securing belt can be slidably threaded, at least one of the slots being sized to prevent the passage of a latch member therethrough.

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